

1 and also best realize the opportunities presented by
2 those technologies.

3 It is interesting that engineers sometimes
4 make very good attorneys, largely because the though
5 process of engineering and law can be very similar in
6 terms of problem solving.

7 Unfortunately, I think all too often when we
8 are designing regulatory regimes we sort of forget
9 that when you are going through an engineering process
10 you define the problem, you define the solution, you
11 see if the solution works and you go back and you
12 change it if it doesn't so you can reach the goal of
13 actually answering the question you started from.

14 All too often in the regulatory space,
15 unfortunately, you end up defining the problem,
16 somebody figures out okay, well we'll just regulate it
17 this way, or we'll have this program.

18 And then by the time you get around to
19 figuring out whether or not that program has actually
20 worked, or whether that solution has actually worked,
21 you are two or three years down the road.

22 And if it's not working, it's extremely
23 difficult to actually change it to make it work. So,
24 getting it right at the beginning is extremely
25 important, and also being willing down the road to be

1 flexible in the approach and adopt new solutions as
2 they come up is also very important.

3 So I'm extremely excited that we have the
4 speakers that we have today on the panel. I think we
5 really do have a panel that represents perhaps an
6 aggregate of over 100 years of experience in this
7 field, which is not individually, but, you know, each
8 one adds up.

9 And I think you will find that the speakers
10 have an enormous wealth of experience to share with us
11 today. We are going to start with comments from Ed
12 Bosson, who is widely regarded as the father of video
13 relay service.

14 He has been the relay Texas administrator
15 since 1990. In this capacity he manages the relay and
16 associated expenses for the state of Texas. He has
17 won numerous awards for his efforts in this area,
18 including awards from the Texas Associated of Deaf
19 Recognition Award, the Robert H. Weitbrecht
20 Telecommunication Access Award from Telecommunication
21 for the Deaf Inc.

22 He has also received TDI's 30th Anniversary
23 Recognition Award where he was recognized as one of
24 the 30 individuals who have produced the greatest
25 impact on telecommunications accessibility for

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1 America's deaf and hard-of-hearing citizens. So I
2 welcome Mr. Bosson into the panel.

3 MR. BOSSON: Thank you. We will be talking
4 about the impact of network services on VRS. As a
5 result of the internet relay and VRS, there has been a
6 paradigm shift that I would like to share with you.

7 Obviously, TTY users are now migrating to
8 VRS and internet relay services, and the call volume
9 of traditional relay services has either plateaued or
10 decreased as a result of this migration.

11 TRS, traditional relay services, are now
12 rethinking how to define their services because of
13 what's going on in the internet services provided.
14 And those internet services have provided challenges
15 to meeting the TRS guidelines.

16 Functional equivalency, I know it's been
17 discussed and analyzed, and rediscussed, but I'd like
18 to really emphasize that functional equivalency should
19 be based on the senses and how those services are
20 accessed via the sense.

21 Hearing people use a telephone with a voice
22 and hearing. And that gives them access very easily.
23 Deaf people use sight as their sense of communication
24 access.

25 And so they depend on sign language and that

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1 visual access. So the different services we have,
2 like VRS, it isn't a Cadillac for deaf people, it's
3 really just a basic service that provides functional
4 equivalency to that which is already out there for
5 other users.

6 Also, these new changes are affecting
7 interpreters. Interpreters used to have to go from
8 place to place to do their work and interpret for
9 people.

10 But now interpreters are taking on desk-
11 bound work. Many interpreters never predicted that
12 would happen to their industry. But it is happening
13 as they work in VRS call centers.

14 More and more deaf people are having access
15 to computers in their homes. And so they are using
16 internet relay and video relay services. And it is
17 making it easier for them to communicate.

18 And they are not using TTYs anymore. And we
19 have already seen several deaf people talk about how
20 TTYs are, you know, being thrown out and land lines
21 are being cut off, that they are focused on only the
22 internet services that they are able to access at this
23 time.

24 Internet services will require different
25 rules and regulations. Average speed of answer is one

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1 that that's being affected, you know. We need to
2 determine how quick it needs to be answered, you know.

3 The different internet speeds that people
4 are connecting with, you know. So the regulations
5 need to come up with a fair result of, you know, cost
6 of service and quick speed of answer.

7 Also identifying callers, the originating
8 caller and the terminating caller, how to identify
9 callers. Should that be required? Or should that be
10 a service that isn't required anymore?

11 Should the regulations require internet
12 capable services have logins and password protection
13 to minimize some of the fraud cases that we are now
14 experiencing?

15 The question has come up about the funding
16 source for those internet services. Should they be
17 moved back to the state level or maintained at the
18 Federal level?

19 I'd like to really emphasize that the funds
20 are collected -- the money is collected from the
21 carriers. And the carriers collect from the rate
22 payers.

23 And so really, in essence, whatever we call
24 it, the rose is still going to smell the same. Okay?
25 Whether it is Federal or State. On that basis I

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1 believe the Federal Government should study which
2 would be the most cost-effective and the most
3 accessible, provide the most access and be the most
4 fair, not only to the phone companies, but to the rate
5 payers.

6 Because those are the people who are
7 ultimately paying for this service. So if we looked
8 at it on a Federal sponsorship level, I would
9 encourage the FCC to look into Federal funding support
10 for internet relay and VRS completely.

11 I think it is more cost effective. It will
12 distribute the costs more evenly to all of the
13 carriers, and as a result of that to all of the rate
14 payers.

15 All of the payments that they make will be
16 equalized. If it was pushed onto the states that they
17 had to pay for internet and VRS services, competition
18 would only happen at the RFP level.

19 Vendors tend to hold back new technology and
20 new ideas and wait until RFPs come, and they put them
21 in, in hopes to win over their competition. So at
22 that different level it puts, at the Federal level,
23 there's more competition available, rather than
24 limiting it to a single source at the state level.

25 If it is pushed down to the state level

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1 there most often isn't a multi-vendor approach. The
2 RFP approach normally chooses one vendor for the
3 state.

4 They establish a contract. And deaf people
5 then are limited in the choices that they currently
6 experience. Price per minutes depend on the call
7 volume histories for those states.

8 And in the RFP that get sent out, a vendor
9 will look at that state and say well if you have a
10 call volume the price per minute will go down. But if
11 it's a low call volume then the price goes up per
12 minute.

13 And so then that cost is pushed back to the
14 rate payer, depending on which state you live in. If
15 the states did decide to go ahead and take a multi-
16 vendor approach, the cost would then be much higher
17 then if it's done on a Federal level.

18 What you see here on the screen, all of
19 these new things we have coming up, in itself
20 contribute to a reduction of the call volume of
21 traditional relay services, which is a good thing,
22 actually.

23 In conclusion, VRS and IP relay needs to be
24 subsidized by the National fund. There should be
25 special regulations that are separate from traditional

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1 relay service regulations because of internet
2 accessibility.

3 It's not unlike what the FCC is doing right
4 now with VoIP, developing new regulations and new
5 protocols. The same thing needs to happen with
6 internet relay and VRS services conducted over the
7 internet.

8 Functional equivalency needs to be taken a
9 hard look at and redefine functional equivalency. It
10 needs to be redefined in a way that will be more fair
11 to deaf people. Thank you very much.

12 MR. CARLISLE: All right, our next panelist
13 is Dr. Paul Michaelis, who is a consulting member of
14 the technical staff in Avaya Labs, and an adjunct
15 professor in the Cognitive Science Institute at the
16 University of Colorado in Boulder.

17 He is the inventor, or co-inventor, of many
18 Avaya accessibility solutions. He currently has over
19 15 patents, or patents pending in this area. He is
20 the recipient of the Access Innovation Award from the
21 Association of Access Engineering Specialists for his
22 development of the TTY user interface for the Intuity
23 messaging system.

24 He was a member of the Lucent Intellectual
25 Property Board of Advisors, and a distinguished member

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1 of the technical staff of Bell Laboratories. We are
2 very pleased to have him with us here today.

3 MR. MICHAELIS: Thank you. And also I would
4 like to thank everyone for inviting Avaya to speak
5 about regulatory considerations. In most cases we
6 prefer to rely on market forces to guide our decisions
7 about the products we should offer.

8 However, with regard to VoIP systems and
9 services, it is clear that market forces alone will
10 not protect the rights of individuals with
11 disabilities.

12 The history of our Intuity voice-mail system
13 may illustrate why we believe that some form of
14 regulation is essential. In 1993 I helped design and
15 build the TTY user interface for this system.

16 A key feature is that callers may select
17 whether they wish to be prompted by voice or in TTY
18 format. This means, of course, you can give the same
19 phone number to voice and TTY callers.

20 Regardless of the prompting format, callers
21 may leave voice or TTY messages. This TTY interface
22 is a standard feature in the Intuity system. It is
23 not an add-on, there is no license fee, there is no
24 right-to-use fee.

25 The only thing a system administrator needs

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1 to do is turn it on. Now, despite these efforts to
2 encourage accessibility, we are finding that the vast
3 majority of Intuity systems do not have TTY support
4 activated.

5 It is clear that many organizations do not
6 understand the need to provide accessible
7 communication to their employees and to their
8 customers.

9 In this environment we cannot expect that
10 market pressures alone will ensure that VoIP systems
11 are accessible. Before I discuss regulations that may
12 be appropriate and beneficial, I think it's important
13 to describe a few technical differences between
14 traditional phone systems and VoIP.

15 When you have an active call on a standard
16 residential telephone, all transmissions are carried
17 on a single audio channel. This would include your
18 voice, as well as touch tones and modem signals.

19 Many assistive devices, notably TTYs, rely
20 on the phone system's ability to transmit audio
21 information reliably and without distortion. In the
22 present regulatory environment, VoIP audio channels
23 are not required to support reliable TTY
24 communication.

25 This is a problem because the voice

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1 optimized audio compression commonly used in VoIP
2 systems can decrease TTY accuracy to the point it
3 becomes unusable.

4 An exciting aspect of VoIP technology is
5 that even while a call is in progress, all sorts of
6 non-audio information may be transmitted via parallel
7 data channels.

8 Avaya is already using this capability to
9 provide reliable transport of Baudot TTY signals on
10 VoIP-wide area networks. So rather than transmit the
11 TTY tones via the voice channel, a description of the
12 tones is sent via a parallel data channel, the
13 receiving system reconstructs the original audio tones
14 for the TTY device at the far end.

15 And, for the benefit of any engineers in the
16 audience, these descriptions are in the format
17 specified by RFC 2833, and are sent redundantly to
18 compensate for packet loss.

19 It works beautifully. The mechanism I just
20 described brings our voice systems up to par with
21 traditional phone systems. VoIP technology allows us
22 to considerably more.

23 A good example of software for Avaya IP
24 telephones is provided by Avaya for free called
25 Universal Access Phone Status. It takes advantage of

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1 capabilities that are present in our IP telephones to
2 provide, via voice output, all of the information that
3 is presented visually to sighted users, such as which
4 lines are available, which are in use, whether the
5 phone is forwarded, whether there is new voice-mail,
6 whether someone on hold has been disconnected.

7 In fact, over 200 different functions are
8 supported by this product. My flow of the time, here
9 are three high level recommendations regarding
10 regulatory control of VoIP.

11 First, regardless of how the FCC eventually
12 comes out on the issue of is VoIP a telecom or an
13 information service, Avaya supports the idea that, at
14 a minimum, the current accessibility requirements for
15 traditional phone systems should be applied to VoIP.

16 In addition, we would like these regulations
17 implemented at the Federal level, so that
18 manufacturers won't have to deal with multiple
19 standards and regulations that may be developed by the
20 individual states.

21 Second, we believe that a barrier might
22 develop between VoIP users and the users of
23 traditional systems if interoperability and backward
24 compatibility are not required.

25 I regard my third point as really being the

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1 most important. We believe that if accessible VoIP
2 systems cost more than their inaccessible equivalents,
3 the FCC may be unable to guarantee the rights of
4 people with disabilities regardless of whether VoIP
5 regulations are adopted.

6 Previous statements from the FCC demonstrate
7 that they have been reluctant, and appropriately so in
8 my opinion, to require capabilities that are not
9 readily achievable.

10 A key component of how the FCC defines
11 readily achievable takes into account the cost of the
12 incremental action. Now, the accessibility solutions
13 I have described today are included in our products
14 without additional charges or fees.

15 This was a priority for us during the design
16 process. And we were able to achieve this by taking
17 advantage of capabilities that were actually already
18 present in our systems.

19 For example, the TTY on IP solution uses a
20 mechanism that was implemented originally to transmit
21 touch-tones on the internet. The TTY messaging system
22 I described to you uses a software that was
23 implemented originally to support multi-lingual spoken
24 announcement sets.

25 How, this style of engineering, which we try

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1 to piggy-back inexpensively onto existing
2 capabilities, has a very important objective. Now,
3 keep in mind, the cost component and how the phrase
4 readily achievable is defined.

5 We believe that if accessible systems cost
6 more than inaccessible equivalents this could lead to
7 discrimination of the provision of services and
8 opportunities for employment in organizations that are
9 unable to or unwilling to cover the extra expense.

10 By reusing capabilities that were already
11 present in our systems, we are providing accessible
12 solutions for VoIP that are, by definition, readily
13 achievable.

14 Now, realistically, it is not always
15 possible to include accessibility within a standard
16 product for no additional charge. However, one thing
17 you can count on is that Avaya will always try.

18 Going forward, we look forward to working
19 with the FCC and with the community in general to
20 ensure that everyone's needs are respected and
21 accommodated. Thank you.

22 MR. CARLISLE: Thank you very much Paul.
23 Our next panelist is Paul Schroeder who serves as the
24 Vice President of Policy Research and Technology for
25 the American Foundation for the Blind.

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1 He is responsible for AFB's activities
2 related to legislative and public policy, research and
3 demographic trends and efforts to improve access and
4 information concerning technology.

5 He has been directly responsible for a
6 number of significant developments, including helping
7 to negotiate disability access language during the
8 1996 Telecom Act.

9 He has been a leading advocate in the effort
10 to enact legislation that would improve access to text
11 books for students who are blind or visually impaired.
12 And he has also been a leading voice in AFB's work to
13 foster a greater access to cell phones and other
14 telecommunications equipment. Paul, thank you very
15 much for being with us.

16 MR. SCHROEDER: Thank you, very much. And
17 good afternoon. I want to observe that so far we have
18 all been very nice and behaved. And I will try to
19 keep to that.

20 I think it's kind of a suit and necktie
21 phenomena that we are all kind of constrained from
22 speaking perhaps directly. And I want to compliment
23 Jim Tobias for A, not having a necktie, and B, being
24 fairly provocative in some of his comments.

25 And I thought they were very well chosen.

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1 And those of you who may have missed it, especially
2 those listening on the web, check him out. They were
3 good comments.

4 It's interesting that we saved the
5 regulatory portion to last, and appropriately so. I
6 think it's good that we've been able to talk about
7 some of the other issues, including some of the great
8 benefits that come from IP-enabled services.

9 I want to make a couple of observations.
10 But, first of all I want to commend the Commission for
11 an excellent notice of conveying your usual breadth
12 and depth of analysis.

13 Those of you who have maybe been daunted by
14 its length or its topic, please read it. It's really
15 tremendous. It's a great read. The layering
16 discussion alone is almost Dostoevsky in tone.

17 You will enjoy it. It will be in literary
18 classes next year I'm sure. It is a good notice. And
19 I do commend it. We have heard a lot today about
20 Voice Over IP.

21 And I want to express a concern that we are
22 really talking about something far deeper and more
23 significant in a way than that. Voice Over IP fits
24 fairly well within the current telecom structure.

25 I think we can debate and argue over how it

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1 should be deemed in the regulatory scheme. But I
2 think we could probably come down and agree that it's
3 a telecom service and should be treated as such.

4 IP-enabled services are far more
5 significant, and really have to be treated
6 differently. And that's one of the things I want to
7 talk about.

8 How do we ensure that people with
9 disabilities have reliable access to these IP services
10 with all that comes with them? Well it should be no
11 surprise to anyone here that I'm going to advocate,
12 yes, regulations, to ensure reliable access for people
13 with disabilities.

14 Voluntary measures and market forces simply
15 don't work. Everybody wants them to work. Everybody
16 says they should work. Everybody hopes they will
17 work.

18 But they simply don't work for people with
19 disabilities. So, even though we might say it over
20 and over again, it isn't true. It hasn't been true,
21 and I doubt for the foreseeable future that it will be
22 true.

23 The reason for that is fairly simply. We
24 simply don't have the sufficient focused power in the
25 marketplace to ensure that services will meet our

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1 needs.

2 So it seems to me the role of government,
3 and in this case the FCC, is to ensure a reliable
4 opportunity for equal access, albeit with minimal
5 intrusion.

6 Striking that balance is the critical task
7 confronting the Commission. I think we have a
8 historic moment to try to construct the right
9 regulatory approach that meets the needs of consumers
10 with disabilities, rather than trying to shoehorn us
11 into the unrelated legacy approaches of the past.

12 Of course I'm referring here to the computer
13 inquiry lines of reasoning, and to the economic-based
14 regulatory scheme that we have been living within.
15 Whatever the flaws of the latter, the economic scheme,
16 might be, certainly it has served important interest,
17 especially in constraining the abuses that might arise
18 for monopoly power.

19 But even in a non-monopoly condition, people
20 with disabilities still do not have the power to
21 negotiate the rates, the terms, and conditions that
22 affect our access to services.

23 With respect to the computer inquiry
24 decisions, one wishes we could have been around 40
25 years ago to try to steer things in a different

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1 direction.

2 Nonetheless, most of us weren't, maybe a
3 couple exceptions on this table since we've got a
4 hundred years of service. We have said several times
5 in our responses to notices here at the FCC, we have
6 asked the FCC to try to go beyond, to try to move past
7 the separation of basic and enhanced or telecom and
8 information services that arose from the computer
9 inquiry.

10 We've said that in our comments on the
11 further notice of inquiry, Section 255, and we've also
12 made the same point in talking about broadband
13 services.

14 Obviously the analysis in the notice that
15 Commission has published also points out that there is
16 a rich communication environment, and an environment
17 that does go well beyond the division of telecom and
18 if services.

19 Nonetheless, I have to say at the heart of
20 the discussion of regulatory schemes in the Federal
21 Communications Commission notice, and in the comments
22 here this afternoon, we have continued to focus on
23 voice and made analogies to traditional voice
24 telephony.

25 We have to move beyond the focus on voice.

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1 And we have to get to a focus on the message, on the
2 content, for it is the communication of that content
3 that really is essential.

4 Yes, the transmission of voice is important,
5 and it does need to be protected in terms of
6 accessibility. But so many other forms of content
7 described in the notice, and talked about in terms of
8 the IP environment that we are now in, are of great
9 significance to people with disabilities, and are
10 simply not being made accessible.

11 I have no doubt that the marketplace will
12 ensure a wide panoply of services and products for
13 consumers. And I have no doubt that those providing
14 those services will find a way to make money.

15 But experience tells us that the needs of
16 people with disabilities, if thought of at all, will
17 be addressed as afterthoughts, retrofits, and
18 incomplete and inferior approaches.

19 We are not looking for an imposed solution.
20 Nor do we want to be bought off with a scheme that
21 says special devices for special people. So, how do
22 we ensure that people with disabilities can take equal
23 advantage of these new communications services?

24 Well, I'm going to say that I think Section
25 255 of the Communications Act actually offers the

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1 right starting point. Yes, it does bear the struggles
2 of having been written with a telecom and information
3 services distinctions in place.

4 But it addresses the needs of consumers by
5 addressing access to both equipment and
6 telecommunications services. And it sets user
7 interface standards.

8 Section 255 addresses that all important
9 human interface to communications. Regardless of
10 whether we are describing a traditional telephone, or
11 whether we are describing something that, in fact,
12 uses enhanced technologies.

13 I am convinced that standards can be set to
14 require access to IP-enabled services, that we can
15 look at end-user devices, those used by the consumers
16 in their home or on their person, the controllers of
17 those devices, be they personal computers, handheld
18 devices or otherwise, the software that runs those
19 services, the electronic services, such as the web-
20 bases services that allow individuals to interact.

21 And, of course, we can ensure that the
22 communication protocols are open so that consumers can
23 connect at will. But, as I said, 255 is limited by
24 its applications to telecommunications and, frankly,
25 its neglect in the enforcement here at the Federal

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1 Communications Commission.

2 Unfortunately, our hopes have not been
3 realized. But I believe that the breadth and approach
4 of 255 remains right. We've gone nearly this time --
5 and I'm closing up here -- without using the term
6 ancillary jurisdiction.

7 ° And I can't believe we have gone a whole
8 morning without saying that. It's the right
9 regulatory edifice on which to build a 255-like
10 approach to ensure broad access to IP communications
11 and technologies for people with disabilities.

12 MR. CARLISLE: We'd like to get people
13 warmed up for a while before we actually start
14 throwing around ancillary jurisdiction. By the way,
15 thank you very much.

16 That's the first time I've ever heard a,
17 speaking on behalf of the staff who wrote the NPRM,
18 that's first time I've ever heard any part of an FCC
19 order referred to as Dostoevskian.

20 We usually get Kakkaesque. And it's really
21 not that long. It's only about 60 pages long, which
22 is actually a pamphlet compared to most of what we do.
23 And one more thing, before I take anymore heat on this
24 hundred year comment, I'm just going by the bios.

25 And Vanderheiden has been in this for 30

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1 years. Mr. Schroeder has been in it for 20 years from
2 his bio, Michaelis for 25, and Mr. Bosson has been
3 head since 1990 of the Texas TRS Service, and has
4 probably got more experience than that.

5 So, you've at least got 89 years by my
6 account. So just put that to rest. Our last panelist
7 is Dr. Gregg Vanderheiden who we are very happy to
8 have again.

9 He was on our VoIP forum in December of last
10 year, and provided very valuable input on the
11 disabilities access issues. So we are very happy to
12 have him back again so we can delve into more detail
13 in this forum here.

14 He is a Professor in Industrial Engineer and
15 Biomedical Engineering, and directs the Trace Research
16 and Development Center at University of Wisconsin in
17 Madison.

18 Dr. Vanderheiden has been working in this
19 field for, as I mentioned, 30 years. He pioneered the
20 field of augmentative communication and assistive
21 technology, and for many years has been looking at
22 issues for physical and cognitive disabilities.

23 He has been involved with computer access
24 since the late 1970s. And many access features he has
25 developed are present in Mac, UNIX, and Windows

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1 operating systems.

2 He has worked with a wide variety of Federal
3 Government agencies, as well as corporations. His
4 recent activities focus on cross disability access to
5 the full range of communication and information
6 technologies.

7 He is the co-author of W3C's web content
8 accessibility guidelines, various interconnection
9 standards, and voting systems that are usable by those
10 with disabilities, or elderly.

11 Again, we are very happy to have him.
12 And, please?

13 MR. VANDERHEIDEN: Thank you very much.
14 Again, thank you for the invitation and for putting
15 together this very excellent panel. Coming last is
16 always a dubious distinction.

17 And I will try not to plow old ground. But
18 I will try to bring some things together and to really
19 look at some of the underlying forces that cause
20 things to happen or not happen.

21 So I ask the question, why would we
22 regulate? And the answer is we wouldn't or shouldn't
23 unless we have to. So, is this true for Voice Over IP
24 and for IP services?

25 And let's examine this. One of the things

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1 we saw was in the telecom area we have seen nothing
2 happen regarding accessibility and mainstream
3 companies and products until regulation.

4 Although there were serendipitous things,
5 and there were special programs, sometimes special
6 adaptations in special room. But we haven't seen
7 anything regarding overall access to the different
8 disabilities and the problems they face.

9 With regulation, we also saw that nothing
10 substantial happened that hasn't been driven by FCC
11 enforcement or threat of enforcement. And so when
12 that has either relaxed or time has passed, the
13 interests and the efforts in the companies can
14 actually be seen to slacken and reduce.

15 When a complaint is filed, interest,
16 activities, funding, and work within the companies
17 increases again. Now, is this because the companies
18 are bad, or evil?

19 And the answer is no. It's complicated, but
20 the underlying driving force is that it is not good
21 business to do things that do not generate the most
22 profit.

23 This is a very competitive industry. And
24 those who ignore this, the laws of business, they are
25 gone, they disappear. And we here who buy stocks --

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1 anybody here buy stocks or have a pension fund?

2 We want our stocks to generate as much
3 return as possible. So if you're like we, the public,
4 are the evil owners of these companies that care about
5 nothing but profit.

6 So profit isn't bad, it's life. It's like
7 gravity. If you're old and you fall and you break
8 your hip, you kind of curse gravity. But if you
9 didn't have gravity you wouldn't have traction, you
10 couldn't walk.

11 Profits are similar to gravity. They are
12 both a fact, and they are what makes things work. We
13 ignore gravity at our own peril. We ignore the profit
14 motive and its driving and critical force in business,
15 at the peril of actually the consumer.

16 If we think that things will happen for the
17 consumer for any other reason except if they need to,
18 then we basically are ignoring gravity. So what does
19 this have to do with regulation?

20 Regulations are a way of taking important
21 things that won't and don't happen by market forces,
22 that aren't in the profit equation, and putting them
23 into the profit equation.

24 Profit is what makes businesses work.
25 Regulation is how society, and what society uses to

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